Amendments to the Specification:

Please replace paragraph [0007] with the following amended paragraph:

[0007] Our invention extends the melting length by utilizing a low volumetric compression ratio. In addition, by increasing the flight pitch of the screw at the end of the transition section as seen in FIG. 2 through [[4]] 3, the polymer is exposed to more barrel wall surface area and excellent heat transfer. The increase in the flight pitch increases the velocity between the barrel and the polymer adding a melting and mixing effect. And lastly, ~~by changing the root and the pitch in a un-harmonious manner as described herein~~ by stepping the root in cooperation with the flight pitch change, an added degree of mixing is achieved. So, one skilled in the art would surmise that our invention has created a design that generates a more thoroughly melted and mixed polymeric material without the addition of an expensive, complicated mixing section that is typical of advanced screw designs.

Please delete paragraphs [0008-0010].

Please replace paragraph [0011] with the following amended paragraph:

[0011] To my knowledge there are no designs that make an attempt to increase the flight pitch to achieve a shallower flight depth while maintaining a similar channel volume, ~~nor is there a design that increases the flight pitch whose purpose is to interject a series of intra-flights or a cross channel barrier flight to add a homogenous mixing effect to the polymeric material while maintaining the same shallow flight depth~~, in addition there is no relationship between the flight and the root like the present invention employs.

Please replace paragraph [0012] with the following amended paragraph:

[0012] The present invention is directed to a screw configuration, plasticating apparatus and method for improving melting and mixing of resinous material in the metering section. In accordance with this invention a plasticating screw having a feed section, transition section

transition sections, each section having a flight channel forming a specific channel volume when compared with each other forms a compression ratio with the volume of the feed section being greater than that of the metering section. Said screw having at least one but preferably two or more changes in the flight pitch and root diameter at the end of the transition section and through the metering section with the root ~~changing in a un-harmoneous motion with the flight~~ stepped in cooperation with an increase in the flight pitch. Said changes that are dependent upon the flighted length to screw diameter ratio, screw diameter and resin composite.

Please replace paragraph [0015] with the following amended paragraph:

[0015] 2). In our invention, the increase in pitch occurs in ~~conjunction~~ cooperation with a change in the root diameter, so as the flight pitch increases, the root of the screw transitions from a deep flight depth to a shallow flight depth[[,]]. ~~this taper does not occur in a concurrent manner with the flight but in a un-harmoneous manner. The helix angle of the flight that is formed and the angle that is formed by the change in the flight depth do not occur in unison.~~ The change in the root that starts at the same tangent point as the increase in the pitch ends ~~preferable about between .7-.9 and 1.1 – 1.3 times farther towards or closer to the point of one complete revolution of the flight.~~ The stepped change in the root that starts at the same tangent point as the increase in the pitch ends preferable about between .7-.9 and or 1.1 – 1.3 upstream or downstream of the end of one complete revolution of the flight.

Please replace paragraph [0016] with the following amended paragraph:

[0016] 3). An option that executes two flight pitch increases in succession that are separated by a constant depth metering section, said first flight pitch is about between 1.20 to ~~1.30~~ 1.50 times the original flight pitch, said second flight pitch is about between 1.35 to 1.50 times the original flight pitch. The first change in the root that starts at the same tangent point as the increase in the first pitch ends preferable about between ~~1.1 to 1.3 times farther towards the point~~ .7-.9 and or 1.1 – 1.3 upstream or downstream of one complete revolution of the flight, the second change in the root ends preferable about between ~~.7 to .9 times closer to the point~~ .7-.9 and or 1.1 – 1.3 upstream or downstream of one complete revolution of the flight. It is

understood that multiple changes in the flight and root profile while subjecting the resinous material to our substantially shallower metering flight depths are good for melting and mixing.

Please delete paragraph(s) [0024-0027].

Please replace paragraph [0032] with the following amended paragraph:

[0032] Referring to FIG. 2 and 2A, the basic option of the invention is represented, working from the transition section 32, that tapers from a generally deep feed depth to a shallow metering depth said taper forming a angle 36, advancing along the axis 74 of the screw towards the discharge port 28, a flight pitch 40 that is generally constant with the pitch in the feed section 30, a tangent point between the transition and metering section 44 that signals the start of a change in the flight pitch 42 that is about between ~~1.35~~ 1.20 and 1.50 times the original pitch 40, said tangent point 44 that also forms the starting point for a stepped change in the root 22 of the screw 10 that is not ~~concurrent~~ congruent with the increased pitch 42, said change in the root that is generally about between .7 to .9 or 1.1 to 1.3 times the length of the increased flight pitch 42 generating a measurable length 46 along the axis 74 that exits at a shallow flight depth 54, shallow flight depth 54 that is constant for the remainder of the metering section 47.

Please replace paragraph [0033] with the following amended paragraph:

[0033] A transition section that is tapered from a deep flight depth to a shallow flight depth that forms a angle 36, a tangent point 44 between the transition section 32 and the metering section 34, that forms a measurable flight depth 45, a channel volume that is calculated using the original flight pitch 40 and flight depth 45. A design that utilizes an increased flight pitch 42 and similar channel volume that when calculated generates a substantially shallower flight metering depth 54. A flight depth 54 that is ~~substantially shallower than normal and a flight pitch 42 that are substantially longer than normal and a un-harmoneous flight pitch to root transition.~~ shallow for good conductive heat transfer, a flight pitch 42 that is extended for more exposure to the barrel wall, and takes place in cooperation with a stepped change in the root.

Please replace paragraph [0034] with the following amended paragraph:

[0034] Referring to FIG. 3 and 3A, the generally preferred option of the invention is represented, working from the transition section 32, and advancing along the axis 74 of the screw towards the discharge port 28, a flight pitch 40 that is generally constant with the pitch in the feed section 30, a tangent point between the transition and metering section 44, that signals the start of a change in the flight pitch 42 that is about between 1.20 ~~and~~ to ~~1.25~~ 1.50 times the original pitch 40, said tangent point 44 that also forms the starting point for a change in the root 22 of the screw 10 that is not ~~concurrent~~ congruent with the increased pitch 42, said change in the root that is generally about between .7 to .9 or 1.1 to 1.3 times the length of the increased flight pitch 42 generating a measurable length 46 along the axis 74 that exits at a shallow flight depth 54, shallow flight depth 54 that is constant for a distance 47 that varies depending upon the flight length to screw diameter ratio, and resin composite, a second tangent point 48 that signals another change in the flight pitch 50 that is about between ~~1.35~~ 1.20 to 1.50 times the original pitch 40 said tangent point 48 that also forms the starting point for a change in the root 22 of the screw 10 that is not ~~concurrent~~ congruent with the increased pitch 50, said change in the root that is generally about between .7 to .9 or 1.1 to 1.3 times the length of the increased flight pitch 50 generating a measurable length 52 along the axis 74 that exits at a shallow flight depth 55, shallow flight depth 55 that is constant for the remainder of the metering section 53.

Please delete paragraph(s) [0036-0040].